

K- ENGLAND). - COMMITTEE OF LANDOWNERS, ETC.

THE (15)  
R E P O R T  
OF  
ROBERT MYLNE, ENGINEER,  
ON THE  
PROPOSED IMPROVEMENT  
OF THE  
DRAINAGE AND NAVIGATION  
OF THE  
*RIVER OUZE,*  
BY  
EXECUTING A STRAIGHT CUT,  
FROM  
*EAU-BRINK, TO KING'S-LYNN.*

---

L O N D O N:  
PRINTED BY HENRY BALDWIN, BRIDGE-STREET.  
MDCCXCII.

R. E. P. O. T.

ROBERT MYLNE, Esq.

OF THE

CHANCERY OF THE DUCHY OF LANCASHIRE

CHANCERY OF THE DUCHY OF LANCASHIRE

CHANCERY OF THE DUCHY OF LANCASHIRE

CHANCERY OF THE DUCHY OF LANCASHIRE

CHANCERY OF THE DUCHY OF LANCASHIRE

CHANCERY OF THE DUCHY OF LANCASHIRE

CHANCERY OF THE DUCHY OF LANCASHIRE

---

THE  
REPORT, &c.

---

NEW-RIVER-HEAD, LONDON, Oct. 26, 1791.

To the Committee of Land-Owners, and  
others, interested in the Improvement of  
the Outfall of the River Ouze, &c.

GENTLEMEN,

ACCORDING to the request, made at your meeting on  
the 31st of AUGUST last, by which you employed me, *to  
View the line of the proposed New Cut, and from the end thereof,  
through Lynn Harbour, down to the Flag Buoy, in Lynn Chan-  
nel; and also, the country proposed to be drained, by that New Cut,  
and to report my opinion, on the good or bad effects, which may  
probably accrue to drainage and navigation;* It is my duty to state,

B

that

that I have taken the view above mentioned, and been attended by persons who were well acquainted with the country, and able to give me every information relative thereto.

I examined the lands proposed to be cut through, and the Harbour of *Lynn*; and took the soundings of the Channel, and of the rivers of *Ouze* and *Grant*, (*olim Gronta and Granta*,) from the Flag buoy, at the mouth of the navigable Channel, through *Lynn* Harbour, upwards to *Cambridge*.

Having considered the particulars, collected from the said view, and all facts, useful and fit to be depended on; I beg leave to state and report my opinion, on the objects of your consideration. I feel the weight of the subject; and fear only, I shall not be sufficiently and clearly understood, on a matter so complicated and entangled, in respect to the various interests, concerned in it: and which interests have already been treated of, by various Artists, for two hundred years past, who had their opportunities, and some of them more local knowledge, than I can possibly pretend to have.

I intreat you to attend to a prefatory consideration, viz. that the present situation of things, and all matters of drainage and navigation,



navigation, within, or connected with the district above mentioned, is so totally different from what it was one hundred years since, or forty, or even thirty years ago, that, whatever has been said and controverted, at different periods, passes for very little *now*.—While we have the present situation of the parts, and their relation to one another, to resort to, I shall not trust to Books, Memoires, or Prints, (the greatest part of which are partial, and many erroneous,) and only observe, that they may be looked upon as the beacons of the day, and the object only of the moment.

The interests of all the fens in general, furrounding the great *Estuary* of *Lynn Deep*s, once compleatly interwoven and blended together, are now so pointedly, and decisively separated, into those districts of the North, the Middle, the *Inland* \*, and the South levels, that what relates to one, has barely any connection with the other: *Your object*, if I understand it rightly, is the whole of the South, the Middle level,

\* Here, a distinction is taken, by the word *Inland*, in contradistinction to those next the sea; the better to understand what follows. It is uncommon, when speaking on this subject; but the singularity of the expression will be best excused, by what is stated hereafter.

and *Marshland*; being such lands as discharge their waters into the *Ouze*, and its outfall at *Lynn*.

To *this object* alone, I shall confine myself; and allow the matter of the drainage, from *the Inland* district, above *Earith*, towards *Huntingdon*, *Bedford*, and the countries above that spot, to be out of the present consideration; although, the waters thereof, pass, by and through the new *Bedford* River, into the *Ouze*; yet, as they have no connection with the lands on each side of the course of that River, it will be taken for granted, whatever improves the drainage from *Earith* downwards, will improve that likewise, of all the countries above it.

If the great scheme of draining all the territory of the FENS, from *Norfolk* on the east, round to *Wainfleet* in *Lincolnshire*, had been delayed for two hundred years, it would have been a much easier business at this day, to have maintained and preserved the Fen-lands, from being overflowed in winter. If that portion of time had been allowed to elapse, the quantity of matter hurried from the uplands, or *inland districts*, down to the sea, and as constantly rejected by the sea, would have formed *a level* for the surface of those lands, much higher with respect to the low water-marks, than they are unfortunately

nately at present. Nothing could raise them, the waters containing silt, once excluded. No art can be used for that purpose. The progress, arising from the decaying of plants, is but slow indeed.

The beds of rivers and streams, which were formed by nature, antecedent to enclosures made by sea-walls, were, in point of line, course, and situation, the produce and effect of the waters, inundating the fenny lands at high water, and in floods (separate, or combined) passing off the surface of these lands, at the different periods of ebbing tides, in various directions.

Whoever casts an eye over the map of this immense territory, will observe the *then* course of the various natural Rivers were the worst calculated, and situated, to convey the land waters, in the most direct manner to sea.—When once the usual works of art were adopted to fence lands from being overflowed, the course of the several streams had then the most circuitous journey to make, to convey the land waters, from above, past and through these fenny lands to sea.

Hence



Hence it has arisen, and it has so happened, that all the methods, or projects, (successful, or not,) which have been hitherto undertaken have been to attempt, what nature could not then do herself, viz. *to shorten the distance* between the upland or high country, and the outfalls at sea.

The several leams, lodes, and artificial rivers, or *cuts*, more properly called, are nothing more, than the joint efforts, of that general principle, at different periods of time, since embanking commenced its operations \*.

Many portions of various streams, which are at present natural to all appearance, were nothing more, than the effects of art, in long past times; reclaiming nature, from the wandering course, which in running waters, she has always a tendency to make.

Let the ancient course of the *Ouze* be traced through the country, (which was laid under water, instead of being drained,) and, it will be obvious to common sense, its then operations, when loaded with muddy water, from several countries above; and, its passage to sea, being barred by spring tides, combined  
with

\* *Et paludibus emuniendis.* Tacitus, life of Agricola.



with storms of wind at the equinoxes ; its serpentine and circuitous course was the best calculated, to lay every portion of lands, on the borders of its stream, compleatly and repeatedly under water : and, as a run of bad seasons occurred, held them in that lost state.

There is no occasion, to call in the aid of science, to point out the advantages of a direct course.—*Straight to sea*, is the most effectual way, of discharging the land waters into the sea.—The shortest way between two points, is a straight line.—On this principle, the *Bedford* rivers were established, and gave a new course to the *Ouze* ; which loitered in its way to sea, from *Earith* to join the *Grant*, round by *Ely* to *Denver*.—The new *Bedford* river, so far as it runs, is now, in fact, the *Ouze*. And all the lands, to eastward of its straight line, are unburthened of all the bad consequences, which, previous to that work, they were subject to, by the inland floods, from above that district.

The great and good effects, of that straight line, were so much in favour of these lands, just mentioned, that the floods of the upper *Ouze*, being barred by the *Hermitage* sluice, from carrying desolation into districts, they used to ravage in its old

circuitous course, were hurried on so quickly, by *this*, its new course, to the point of *Denver*, that the waters of the inlands and uplands, (though more distant,) arrived there, (at *Denver*,) sooner, than the waters of the middle district of the old *Ouze*, the *Grant* or *Cam*, &c. And these Lower-districts could not muster up, time enough, their portion of a flood, to be on a level with the other. From thence it came to pass, that the *Ouze* from above *Earith*, injected from below, (passing upwards from *Denver*,) and flooded those very lands and property, which it was not permitted to do, by its old course being stopped up.

*Denver* sluice was put down to prevent that new evil ; a very natural one, arising from the great good effect of stopping and preventing the other. And the frequency of the gates being shut, is a sufficient proof, that the balance is now greatly in favour of all lands above *Denver*, and to the eastward of the *Ouze*.

*Denver* sluice has not only been misrepresented, as to its effect, but as to its form. And artists, whose first duty is to speak truth, have not fairly stated its powers, to pass water through it ; compared, with the sections of the River  
above

above it, and below it; neglecting to take into consideration, at the same time, *how much* was required of it, at different periods, during these alterations; the changes and diversions of the *Ouze*; and the different quantities of water, passing through the same bed of river, at different periods.—It is not my purpose at present to correct them, but to announce the fact. I have halted too long on the subject of the *Bedford* Rivers, if it was not to give, an apposite example of what short cuts do perform, compared to a circuitous course, of any shape or form; and, for a river to execute its office well, the only course is that of a straight line.

There are many other parts on these Rivers, where the same thing has been effected with a success, in proportion to the length of the line.

A straight cut from *Eau-brink* to *Lynn-Harbour*, will have a proportionate good effect; and the grand object will be obtained, of carrying away the waters, above *St. German's* more readily and more rapidly, than they are now by the strange circuitous form, its passage has at present. The surveys taken, shew, that while the levels continue the same, the distance will be shortened two miles and an half.



It is so obvious, that the waters of the *Ouze*, at *St. Germans*, at any period of ebbing tides, or land floods, or their combined states, will be drawn off sooner, in point of time, and lower in point of level, by the proposed cut; I am astonished at those, who shut their eyes, at so clear and plain a fact, and consequence.

If it shall be so, at *St. Germans*, will it not be the same, though proportionally less, all the way up to *Denver*, and more forward, up the country, into every stream; *till at a distance, the good effects will be lost, in an ideal point?*—Every sluice, drain, goale, and outlet from the Fens, in the intermediate space, by the way, will feel the good effects of it immediately.—In progress of time, as the waters will have thereby a greater portion of the twenty-four hours, to pass downwards, by the present inclined plane, of the bed of the River being more inclined in such case, they will obtain a new or acquired power, by their rapidity, of wearing away or grinding the surface of the sandy mud. Over this mud, in their present passage to sea, they loiter and wander through a bottom, too extended for them to produce any effect thereupon.

If



If a proper direction be given, to this stream, at the lower end of the cut, to point its new powers, on the flats and sand-banks, in *Lynn Harbour*, it will wear away a Channel *in that Harbour*, in a course and direction, straight in itself; and in a line with its own tendency.—By that means, the soundings or depths, through *Lynn Harbour* will become uniform and lower; and by this additional advantage, the waters from the said cut, will pass still more readily than the *Ouze* gets at present, by the old Channel. This effect will also produce *another*; of deepening the new cut, and all the *Ouze* thence upwards.—These combined effects will cease only, by their operations improving upon one another, in producing more depth, every where; until Nature has formed a new level for herself, in the bed of this River, that will be assuredly beneficial; but, to what precise point, it is impossible for science to define, to that exactness attempted by some, and denied *in toto* by others.

A great impediment to all improvement of the outfall of these waters, is the barrs below *Lynn Harbour*, to seaward. No pains are taken, with the sandy shoals, across the navi-

gable stream: So that, when the land waters come to act, at the last half of ebb, they are impeded by these barrs, and by the lofty sand-banks on each side of them. They have no powers to scour out the sandy shoals in *Lynn Harbour*, itself, or in the wide course, between that and *St. German's*.

But still I think, if any thing will have its effects upon these barrs, it will be that, of bringing the *Ouze*, to a position, pointing all its powers, North, in a straight line, through the middle of *Lynn Harbour*; more so, at least, than by its present inclined position, which directs its waters from the West, falling on the wharf called the *Ball*; then reflected over, in a diagonal direction to the shore below the Ferry-west-staith; and then reflected back again to the eastern shore, at the pool of the *Crutch*. In that short transit, from the mouth of *Sandringham-Eau*, to the *Crutch*, the navigable stream passes through two pools, of good depth, but over two barrs also, which separate them, of 18 or 20 inches of water only, at low water spring tides, into the pool of the *Crutch*.

Such a vast quantity of materials have been borne to sea, from the land, in successive ages, that the *Emboucheur* of the  
navigable

navigable Channel is protruded, farther out to sea. The sea rejects all that matter, brought into it; and lands it, upon the coasts adjoining. This protrusion, is the only alteration, Nature makes; and the length gained is the cause of more intricacy. There always was, and there always will be, a Channel from *Lynn Harbour*. It will alter its situation only, and *vibrate*, from the East or West, in that wide space, which lies North of *Lynn Harbour*. But, in proportion as it grows longer, its windings become more doubled, (to use that expression;) and of course, with any given wind, the difficulty of conducting a vessel, through it, become more and more difficult.—The *barrs* too, which are across a Channel, more winding than it was before, and more sudden in the turns it takes; becomes more shallow, and the pools more deep; and all uniformity is at an end. This single effect, of the mouth of the Channel being more distant from *Lynn*, is the only great alteration made; and, it is made, by the hand of Providence, impossible for the powers of man to alter or counteract.

It occurs to me, and is the plainest of all things, that the only way, and means left, to take out the doublings of the  
Channel,



Channel, to the seaward of *Lynn*, would be to take all kinks or doublings out of the direction of the stream, above it, inland.

In running waters over a moveable bottom, capable of being worne away by a current; Nature has always a tendency to get into a *serpentizing line*, totally negligent, as it were, of the business meant to be performed. The mouths of all rivers, in a flat country, are a proof of this. *Here*, Nature has been left too long to herself, and got into a bent course. It is therefore necessary to restore her to a straight one.

Let us try this question by another rule.—Suppose the *Ouze* was *now* in the very bed proposed for her to be laid in: Would it be right and proper to make a new cut, the same as her wide and bent circuitous course is at present? If I proposed it I should expect the world, and all my brethren, would say it was madness in the extreme.

So much for the line of its course. To the question of the great and unnecessary breadth of it, between *Eau-brink* and *Lynn*, it will readily occur; this breadth is useless for the *Ouze* above, as to quantity;—that its extreme breadth is the cause of its shallowness;



shallowness ; and, that it must have been formed, by Nature, at times, when more waters came down the *Ouze*, from countries that are drained otherwise, at present. To undo this last arrangement is impossible ; it is nugatory, therefore, to reason on it. But, this extreme breadth, though begun at first through that cause, has been evidently increased by the swell of the waters, lashing the shores of it ; and much more so by the little stream of land waters running in it, during the last half of ebb, searching for its course downward, through its flat bottom, from side to side, in a meandering course, in this great bent circuit ; and, thereby undermining the foot of the banks, and tumbling down all the fences, and expensive barriers of timber, &c. set up in opposition to it.

The extreme length of five miles two furlongs of this course is made, at least a mile longer, by the stream following its serpentizing inclination, in this portion of a circle.

On the whole, I have no hesitation to say, all the lands whatsoever will be benefited by this proposition ; and I cannot see any well founded objection to it, as to drainage, and to the navigation of the River *Ouze*, between *Lynn* and *Ely*, that is worth combating or stating.

There

There may be objections from some parties within this district; but, they are not questions of science, or as to the effects of art.

The alteration proposed, will require proper attention to be paid to the outlet, of some of the sluices, drains, and goales, which empty themselves into the present Channel, and which must be made to discharge their waters into the new Channel, either above it or below it.

A large bridge, across it, will be necessary, to communicate the lands intersected; but the lands themselves will be greatly benefited.

There are many obstructions, in the bed of the *Ouze*, at bridges, at points of land, and in other places, which ought also to be *set to rights*; and, when done, will be highly conducive to the general good.

I have made enquiry into the objections formed to this proposition of A NEW CUT; and into the validity of the reasoning of those who controvert it, and its supposed good or bad effects.

It is objected to, by the Trustees (the Conservators) of the navigation of the *Cam*, between *Cambridge* and *Claybithe* sluice, where, their jurisdiction ends, as a navigation, and that of the *Bedford* Level Corporation begins, as a drainage, &c.—It will be the means, as they state, of all the waters of the *River Ouze*, between *St. Germans* and *Denver*, a length of ten miles, being so effectually drawn off, more than they are at present, or have lately been, that *cæteris paribus*, the valve gates opening downwards at *Denver* sluice, will continue open longer in point of time, in every twenty-four hours; and of course, it will empty the River above *Denver*, for thirty miles in length, to so great a degree, that the waters in the *Grant*, (otherwise called the *Cam*,) at the tail of *Claybithe* sluice, will be so diminished in depth, as to render it impossible, for boats, or any craft, to get into the lowest lock, or pass along, up or down, in the upper portion of that 30 miles of River, to wit, in the space between the mouth of *Reach-Lode*, and *Claybithe*.

If, when done, it was really to perform this service, the greatest of all improvement in point of drainage, to all the countries around; it would be a great good to property of the

D

greatest



greatest extent and value. But, those who are apprehensive of so great an evil to themselves, in point of navigation, by so great a good being obtained to others, in point of drainage, know very little of the real and practical effect of running waters, in the bed, of the part above-mentioned, already shoal in itself, and full of ouzy, sandy mud, with certain portions of it, a hard gravel.

Here it is, the rules of theory and practice do not go hand in hand in such great lengths as thirty miles; one third of which is shoal water already.

A great diminution may be expected, in the waters collected at any given time, just at, and immediately above *Denver* sluice, to the great advantage of all those, who have lands adjoining, East and West of that part which extends from *Denver*, to *Sobam* and upwards.

All the lodes, drains, and goales, which empty themselves from the East into this thirty miles length of River, have their valve gates, at the mouth of them, opening downwards, like *Denver* sluice in miniature; and if those which are found useful or necessary in the present situation of things, to defend  
 7 their



their respective districts of country, shall then be found to have a less quantity of water on the outside of their gates, *cæteris paribus* at any given period, they will profit the more by the respective portions of the time of their being open, being enlarged.

The *Wissey River*, *Sam's Cut*, the *Little Ouze* or *Brandon River*, the *Mildenhall River*, the *Soham Drain* or *Lode*, the *Reach Lode*, the *Swaffham Lode*, and the *Bottisham Lode*, all of them of the utmost consequence to an extensive and rich country, in *Norfolk*, *Suffolk*, and *Cambridgeshire*, ought to have the waters at the mouths of them as low as possible, for complete drainage.

While, at the same time, it is perfectly easy to keep the waters (by a pair of gates the reverse of the others) *up* to any given level, at any period of time, best suited for their respective navigations, and most consistent with their drainage.

The establishment of the *Cambridge* navigation, between *Clayhithe* and *Jesus Green*, by means of four pound locks, in the length of six miles, is perhaps the most defective in the kingdom.

All the evils, which are feared to arise from the distant improvements of a new cut, exist at this moment in full force, in this short artificial navigation; and have been so for some time. There are radical errors in its formation; and *that* of its termination, being so high up the river, precludes every possible idea of improvement, unless it is altered.

I am not capable of pointing out the causes of these evils, whether it may be the jurisdictions of different and respectable bodies of men, clashing and interfering, or otherwise.

I shall confine myself to the works of art, and the best possible use that can be procured to the publick by their improvements; taking it for granted, that no good men will object to the improvement of another's property, if it is no ways prejudicial to their own.

The termination of the *Cambridge* navigation, in a proper depth of water in the *Grant*, so as to be no ways problematical in dry seasons, should be as low down as *Reach Lode*.—Whether one additional pound lock will suffice to make a proper depth of water, all along that great length; and also a proper draught of water, on the cill of the lower gates of  
*Clay-*

*Clayhithe* sluice, I am not able to say now ; but, if two are necessary, to ease the side banks of the lower half of its length, they should be made; and every impediment of jurisdiction, &c. should be done away, for the benefit of a general intercourse, upwards and downwards.

This pound lock, with the necessary appendage of a sufficient wear, &c. should be above *Reach Lode*, not below it, where the old artless contrivance, of a staunch, was put down, as a tentamen, some few years ago. It performed its office in one respect, but it entailed upon the navigators, evils of its own nature, which were the cause of its being violently and maliciously rendered useless.

The bed of the river at a ford, half a mile below *Clayhithe*, consisting of a hard gravel, should be ballasted away. And the bed of the *Grant*, from *Reach Lode*, downward, especially at *Dimock's Coates*, should be established, with three feet of water in it, at the driest seasons ; and with the same depth also, on the lower cill of the new pound lock hereby proposed.

The proper ballast boats, where the soil is hard, and the bear, where the bottom is of a soft matter, should be set to  
work



work, to perform so essential a service to navigation and the drainage.

Without this sort of termination of the *Cambridge* navigation being established, there never will be a certain and a cheap carriage of goods. And, I apprehend, it was this great defect in its present state, that induced a project (once submitted to Parliament) of another proposed navigation from the *Stort*, to have *its termination*, being carried so low down, as the *Brandon River*; and avoiding these very defects, and these six miles of bad navigation.

I found only eleven inches of water, on the tail of *Clayhithe* sluice, although there had been but some hours before, all the waters in the three reaches between the locks let off in a spendthrift manner; to form thereby *a flash*, to enable some gangs of boats to pass out of *Clayhithe* sluice, and downwards over and through the shoals, as far as the junction of the *Grant* and the old *Ouze*. This opportunity was taken by some going up, but they were caught a-ground at the *ford* above mentioned; and even, if they had got up to the hole at the tail of *Clayhithe*, they could not possibly get *into* the sluice without another such flash, or flood in the River.

It

It is impossible to deepen the River in this space last mentioned, and make another pair of gates in addition to *Claybithe* sufficiently low. That would be too expensive and difficult to keep clean.

If this idea is adopted, to make the intercourse with *Lynn* perfect, it will be necessary to carry the *Bottisbam Lode* down to the *Swaffham Lode*, on the inside and East side of the bank of the *Ouze*; and to conduct both, in a joint state, to the side of the *Reach Lode*.

This alteration will be necessary for the drainage of these districts, *if* the level of the water to be kept up in the corresponding parts of the *Grant*, as herein stated, shall happen to be higher than those respective Lodes are at present.

Thus much for the objection to THE NEW CUT from the upland navigation and countries; to which, I have endeavoured to give their full force. And, I trust, it will be understood, the portion of evil, which is dreaded, is nothing to the magnitude of that which exists, and ought to be removed, for the sake of general improvement.

In

In the present state of things, every acquisition of business on that length of *Cambridge* navigation, must be an acquisition of difficulties, to the ready transit of craft, from the lowest lock to the deep navigation; because, flashes of water are absolutely necessary to get out of, and into *Clayhithe* Lock; and, one flash let off, deprives the whole navigation above of water, and stops it for a length of time, in proportion to the driness of the season.

The objections, formed at *Lynn*, on behalf of that Corporation, and *Emporium* to all the surrounding countries, are, apparently, of more weight; and, as it happens, are diametrically opposite to those suggested at *Cambridge*.

The deeper the water is made, in and below *Lynn*, the more will the waters be drawn off the surface of the lands, and out of the beds of rivers, and streams above it.

Oppositions may be joined together, but the arguments and interests from these two places cannot possibly be united.

I have already said, *generally*, something on *Lynn* Harbour, and its present defects; and it is allowed by Pilots, Sailors, and Merchants, that it never was in so bad a situation.

The



The medium level of the waters in it at low water, and the floor or bottom of it, are so elevated and high, compared with former æras, that a great detriment is thereby inflicted on all drainage above it. This is acknowledged, in one general voice, by all parties. No one can say, however, that the proposed *New Cut* has contributed to these evils : Yet, I trust, I shall make it appear, the want of a New Cut, next above *Lynn* Harbour, together with the neglect of the Harbour itself, are the chief causes of these complaints.

The distance between *St. German's* Bridge, and the chops of *Lynn* Channel at the *Flag or Bell Buoy*, is grown longer, than it was originally. It is possible to make it shorter. It is now about twenty two miles and a half, along the navigable thread of the Channel ; and three miles and four furlongs may be cut off the upper half of it, which would be the means, also, of some of the loops or windings being taken out of it. The lower half (forty years ago the best channel) was along the *Norfolk* Coast : And it is to be hoped, (even *nothing* being done,) it may return there, in forty years more.—But this alteration back again, to a direction straight with, and from the outlet of *Lynn* Harbour to sea, may be accelerated ; by pouring

E

the

the *Ouze* waters from above, straight with, and in a line from, *Lynn Harbour*.

The first great cause of its defects, in point of weight, is the extreme width of it, unnecessary for the quantity of waters which *now* discharge themselves by this outfall into the sea.

I say *now*, because each outfall, round this estuary, has its appropriated quantity distinct from others.

The stream of floods, and the *flow* and *reflow* of tidal waters, has too much room and space to ramble about in, and run from side to side of its breadth, to be consistent with the purpose of forming and maintaining a good harbour.

This extreme breadth, very easy of being ascertained, has been grossly misrepresented—It has been stated at three quarters of a mile; and, to my utter astonishment, to you it has been given lately for 1320 feet. Compunction must follow detection of error; whether the falsehood rises from neglect or intention. I caused it to be measured by two Surveyors and Assistants, (myself being present,) and it was found to be 834 feet 6 inches between the two Ferry staiths at the bottom of the wharfs. It is less,

less, at the low water marks. If it was but 600, or even 500 feet, it would be better for itself, as a Haven, and all the various business of shipping. And by its being deeper, (as it would infallibly be in that case,) it would improve all the drainage and the navigation inland, and would have a depth of water, which it never has been yet possessed of.

No steps are taken to prevent the smallest growth of this extreme width, which it has had of late years—save, indeed, the feeble efforts of the Land-Owners, on the West side of it, from the *Old Hall*, to the Farm-house of *North Lynn*.—A few yards of land, lost to these people, is no consideration. The stability of *their* works, which protect and fence the whole of their farms, in MARSH-LAND, is *their* only object. But every yard of land, thrown into the width of a Harbour, already too much, is the dreadful cause of combined evils.—The post of the *Old Hall* (a very ancient building or residence, moated round) seems to have maintained its situation, at the South end, pretty well: At *West Lynn*, the wharfs are strongly attacked: Within these forty years, the Ferry-Staith Buildings have lost an out-house, or lean-to; and all the wharfings, from thence to *North Lynn*, have receded considerably. The Jetties (10 or 12) which projected formerly from this long

E 2
bank,



bank, and expensive wharfing, have been permitted to go to ruin, and do not at present exist. *They* were the most effectual means of preventing the set of the tide of ebb, which passing in a North-West direction, from the *Ball Pool* or Wharf, assant the Harbour, to the West Ferry Staith; and from thence, Northward, ravages the foot of the wharfing in a terrible manner.

The Land-Owners have nothing else for it, but to retreat.— And retreat they do. For the point of land, at, and part of the Old-Hall, is now in a wedge form, or angle of eighty degrees only, by the back of this Crescent part, approaching nearer and nearer in progress of time to the back of the other Crescent, at *Clenchwarton Goale*.

Both sides of this Peninsula are *forely* attacked, while the South-East point of it stands safe. The strongest current of ebb runs from *Clenchwarton Goale*, in a South-East direction; and, after a turn made, from the Custom-House fleet, it runs in the opposite direction of *North-West*. When the direction of flowing waters are permitted to run wild in this manner, no good can be expected from their scouring powers. The Jetties ought to be replaced, and made much more strong and extensive,

five, with footings along the base of the banks, in the intermediate spaces between them; advancing by degrees into that side of the Harbour, in a more firm and established manner, than they ever were. Public Wharfs should be constructed all along the East, or Town's side of the Harbour; with upright fronts, standing in deep water, and forming a regular line of projection, from the public Wharf or common Staith, to that of the *Ball Pool*; with arches of communication, across the openings and fleets.

By confining the returning tidal waters, in times of great land floods, combined with Southerly winds, their power would be directed, in this manner, to the deep water of the *Crutch Pool*; and from thence, having obtained a straight course thus far, it would most probably open, once more, the safe Eastern Channel along the *Norfolk Coast*.

The Corporation of *Lynn* should perform this, if they see their own interest; and MEAN, that trade should increase at that Port.

The crookedness of the present Channel, from the *Crutch* to the sea, abstracted of the question of soundings, is, on  
account

account of the particular winds, necessary to navigate it, a very great detriment in itself.

But nothing is done for *Lynn* Harbour, to form or preserve it. All that has been attempted, is the establishment of moorings; and the marking out the navigable Channel to seaward, as it happens for the time being. Something ought to be done, and *Lynn* ought to have the power, and the means of performing it, as it has the great, though not the only interest, concerned in it.

There was a time, (about 1766,) when the magistrates having its true interest at heart, consulted an eminent artist, how to apply a remedy to its defects. And, it was stated to him, *by them*, " The preservation of Vessels lying in the Harbour from  
 " the annoyance of winds and waves, not only from the sea, but  
 " from the *broad River above the Town*, and, also, from the  
 " raging tides that often accompany them, and drive the vessels  
 " from their moorings; was their desire, and object. Together  
 " with the preservation of the banks of the River, and more  
 " especially those near the Town, from the action of the winds  
 " and seas." They had advice, but nothing was done; saving the simple and obvious one of making the moorings and dol-  
 phins



phins stronger. In the lapse of 25 years, the Harbour is become more protected on the North, or seaward quarter. They have obtained, what they wished, in that respect; by obtaining a greater evil, of their Channel, along the *Norfolk Coast*, being intirely shut up; and, the Channel from the North-West, being the only one capable of navigation.

The width (great and increasfing as it is) of the Harbour, opposite the length of the town, was complained of, and remedies of various kinds were prescribed. And, in the great question before you, of the *propofed New Cut*, it was found, and *then* held by *Lynn*, that the wide water above the Town was a great and enormous evil, fuch as it now is; and *that*, for the reasons above mentioned. To remove that fubject of complaint, it is neceffary to desert the old wide water; and to direct the fcouring powers, of a more rapid and narrower water, in a line parallel to the births of the fhipping, and not full butt againft them as at prefent. The fhipping would thereby be fo laid in the fream, as to have their births kept clean and deep, by the current; and yet the veffels moored fafe from its violence. It is not my bufinefs here, to write on all the points of *Lynn Harbour*, but only to fhew, what relation *this propofed Cut* has to them, good or bad.

To

To give the greatest effect to the powers of the grinding and returning waters in the *proposed cut*, it would be best to make the upper end of it curved, in a very large and long sweep; to form it, as near as possible, to the effect of a straight line from *St. Peter's* to *Eau-Brink*. And the lower end should have a small inclination the other way, to conduct the stream in a North direction, so as to pass *parallel* to the shipping and wharfs above mentioned.

Much stress has, and may be laid, on the great width and length of the present circuitous course, round by *Tilney* and *Issington*, compared with the same points of the New Cut of two hundred and fifty, or three hundred feet: I mean, in respect of the reflux waters, from so large and capacious a space. If it is meant, to state *it*, this ample but shallow space, as a reservoir of back-waters, having a great and good effect upon the draft of water in the Haven, and on the first bar below it, which is the worst; may not any one perceive, from what exists now, there is no effect of any consideration produced from that? *It* cannot even keep itself clean.

The wide mouth of this outfall at *Lynn Town*, is too near the *stomach* part of that space. All the water is past, and gone  
out

out of it, in the first half of the ebb; and nothing remains there, but the waters of the inland portion of the River, finding their way, with great difficulty, and much tardiness, through the shoals formed in its bed, by the slowness of the tide's motion in and out: Shoals, that are formed from the subsiding of the silt, and deposition of materials, which the stream, at the strongest of times, cannot remove, so as to make a uniform depth from end to end of it.

The waters of the OUZE *cannot* be augmented; but its mouth or outfall may be lessened in width, to the increase of its depth. Which last point of more depth, or, the same area of water-way, deeper in the earth, is a quality, worth all the rest put together; and most assuredly, when formed, will produce more good effects to navigation, as well as to drainage, than the present vain and boasted width, of this imperfect outfall. *One inch in depth, is worth ten feet in width.* Suppose for a moment, that, for the improvement of the Harbour, the present width was to be enlarged, to obtain what is wrongfully called more back water; such a step would only accelerate the ruin of the Harbour. It is useless to say more.



There is a certain relation, which ought ever to obtain, between the breadth of the long course of a river, and its exit into the sea. It ought always to grow wider, by gentle degrees; and not suddenly, before it comes to its termination.

There is no relation between two hundred feet width of the River, from *German's Bridge* upwards to *Magdalen Bridge*, and 1320 feet, the mean breadth, between *Eau-Brink* and *Lynn*.

Before persons make up their minds to judge of this question, they should advert to an effect in nature, which seldom is attended to, or *heeded*.

The assertions of the existence of shoals, *shoal* water, and of *deep* water, at different times, in the same places, have tended to puzzle and perplex this question in former discussions.

That there is deeper water, on shoal places, at one time compared with others; and, that there is deeper water, in deep pools, at one time, compared with others, is perfectly true. And parties, who quote different facts of that sort, taken at the same place, speak truth, though contrary to one another. In the district, between *Downham* and the *Crutch Pool*, the alterations

ations produced by nature, however they may be in difference, are the effects of one and the same principle.

When the beds of rivers are too wide for the quantity of water, the stream is stronger, and more rapid, at one part of its breadth, than in others ; and, wherever the strongest current of a stream is directed to a bank, is opposed by that bank, and put by it into a new direction ; *there* it digs a hole, or pool, and models it variously, proportioned to its own powers, at different times. What greatly accelerates the formation of such a pool, is the power, or rather *inefficacy*, of the gentler or flake parts of the stream, (not being able to get forward equally fast with the other,) depositing the muddy contents of their waters, in large, broad shoals, ample in extent ; and from thence (that is, from off the high surface of these shoals) they break off sideways, at particular periods of the falling tide ; and tumble, laterally, into the bottom of the said pools. These waters cannot get quickly forward, in a straight line, being barred from doing so by a creation of their own, arising from and in consequence of their inability.

In examining the beds of rivers, whose nature partakes of the torrent kind, it will be often found, (when the violence of

floods are past) the greatest part of the breadth of the River is occupied, by a wide space, a little hollow in the section, but shallow; while, a little, narrow portion of the breadth; has formed itself, on one side, into a deep Ravine or Channel, separated by a narrow bank from the former; and also, that this Ravine had, during the rage of a flood, drawn off all the strong powers of the River, and confined their passage way almost to itself.—Hence comes the several *hollow pools* after mentioned, besides lesser ones, above this place. The depth of fourteen foot near the public house at *Islington*, on the West Bank; the deep pool next the North Bank, half way between *Tilney Goale* and *Clenchwarton Goale*; the deep pool, on the West side the Ball Wharf, from *Sandringham-Eau* or *Frier's Fleet*, to *Lady's Fleet*, and *St. Margaret's-Lane*; the deep pool on the West side, from the Dock towards, but not quite to, the *Ferry Staith Buildings*; the deep pool, on the West side, at, and opposite to, the upper sluice from *Marshland*; the deep pool, at the lower sluice, also on the West side, next above *North Lynn* farm house; and lastly, the deep pool of the *Crutch*. The three last are regularly occupied by shipping, waiting to go out from, or to get up to, the *Ball* pool, which forms the best and most effective part of the haven.

These



These pools, or gullies, are like so many knots on the general line, or cord, of this outlet of the *Ouze*; and are the produce of the crookedness of the Channel; and its extravagant breadth, combined together.—The waters of the upland country, conspiring with the flux and reflux of the tidal rivers, to cover and uncover, the surface of the extensive flat sand banks, make and constitute, while they are forming and growing more formidable, by flow, but certain progress, *the Channel* for the discharge of the land waters; and models it, into these detached, large, and deep gullies, or pools, whose bottoms and extent vary with the seasons; sometimes deeper than the low water at sea.

I have now performed what I conceived to have been my duty, on this subject.—Much more might have been said, but to you, Gentlemen, who know the country, and the subject, it would be useless. This proposition has no novelty in it. Men, labouring for the good of these districts, have long ago suggested it, as a remedy to many evils. The late Mr. Golbourne explained it with great diffusiveness, and much good sense. Messrs. Golbourne and Watté have both given their sentiments and their testimonies in favour of it. They are local men, more conversant than most others, on such subjects;

subjects; and hazard their reputation on the event, among those, with whom they live, and with those who employ them.

I shall only add, a statement of the soundings taken, between the extreme points, and through the whole course of the country, to be affected by it; that those, who are capable of drawing inferences, from such facts, may do it if they please.

I am, with great respect,

GENTLEMEN,

Your most obedient humble servant,

ROBERT MYLNE.

# A P P E N D I X.

A LIST of SOUNDINGS, taken, from the Mouth of the *Channel*, between the Sand Banks, Fifteen Miles North of *Lynn*, along the middle of the said Navigable Channel, through *Lynn Harbour*, up the River *Ouze*, to the Junction of the *Grant*, up the River *Grant*, and along the River *Cam*, to the Bridge, in *Cambridge*.

End of September, and beginning of October, 1791, at Dead Low Water; end of the Neap Tides and beginning of the Spring Tides. The Wind from North East to East, various; half Neap and half Spring Tides, according to the Dates.

Feet Inches

24	4	opposite to <i>Bell Buoy</i>
23	0	
23	0	ditto, <i>Middle Sand Buoy</i>
21	10	
21	10	
20	0	
20	0	
19	0	
18	0	ditto, <i>Red Buoy</i> , or <i>Dragon's Paw</i>
16	10	
16	10	ditto, <i>Beacon's Buoy</i> , where a <i>Beacon</i> was formerly
12	6	
12	4	
12	4	
12	4	
11	0	
9	0	
8	0	
9	0	ditto, <i>Black Buoy</i> on the tail of <i>Ter-</i> <i>race Sand</i>
8	3	
7	3	
9	0	
12	4	ditto, <i>Cat's Tail Buoy</i>
13	4	

Feet Inches

15	4	
18	4	
20	0	opposite a <i>Black Buoy</i>
21	4	
18	4	
18	4	
27	0	ditto, lower end of the <i>Lynn Upper</i> <i>Road Stead</i>
25	10	ditto, 1st wreck on <i>East Sand</i>
26	0	ditto, <i>White Buoy</i> , below shipping
26	0	ditto, lower vessel in <i>Road Stead</i>
24	4	ditto, 2d wreck on the <i>East Sand</i>
19	10	
19	10	ditto, at a <i>Black Buoy</i> , East, and <i>White Buoy</i> , West
20	0	ditto, above all the vessels in <i>Road</i>
10	0	ditto, upper part of the <i>Road</i> , or <i>Haven</i>
10	6	
10	0	
12	0	
11	0	ditto, at a <i>Black Buoy</i> and a <i>Beacon</i>
11	0	flood just swelling
12	0	a <i>White Buoy</i>
10	0	a <i>Black Buoy</i>
10	0	opposite <i>Bentinck's</i> house right ahead
G		Feet



## Feet Inches

8	6	opposite a <i>Black Buoy</i>
10	0	ditto, a <i>White Buoy</i>
8	6	
10	0	mooring at the <i>Black Peter Buoy</i> on East side the Channel
10	0	
9	0	
8	0	
7	6	

## FIRST DAY'S WORK.

7	0	opposite a <i>Black Buoy</i>
6	0	
6	0	ditto, a <i>White Buoy</i>
5	6	
5	6	ditto, a <i>Black Buoy</i>
4	0	ditto, to a <i>Beacon</i> , on a sand bank
4	0	
3	3	ditto, a <i>White Buoy</i>
2	6	ditto, in the broad Channel
2	10	
2	9	
4	6	ditto, <i>Bentinck's</i> house
5	0	ditto, 3d <i>Beacon</i> on <i>Bentinck's</i> marsh
3	0	
3	0	ditto, 2d <i>Buoy</i> on <i>Bentinck's</i> marsh
4	0	
3	6	
4	6	
6	0	
5	0	
5	0	ditto, at <i>Salt Marsh</i> South West and close in shore
4	0	
3	6	ditto, at a <i>Buoy</i>
3	9	
4	0	
4	0	ditto, at <i>Sand</i> , North, high and hard
4	0	ditto, a <i>Beacon</i>
4	6	
5	0	
6	0	
8	0	crossing over from West Channel
2	9	opposite a <i>Buoy</i>

## Feet Inches

2	6	
3	0	
3	6	} along the <i>Crutch Pool</i>
4	0	
4	6	
5	0	
3	9	crossing over from <i>Crutch Pool</i>
2	6	
1	10	opposite the <i>Crutch Point</i>
1	8	ditto, at midway, on <i>Barr</i> , in <i>Cross</i> <i>Channel</i>
1	9	
2	0	
2	9	
2	6	ditto, end of the crossing over
2	9	ditto, at <i>Beacon</i> West side
3	0	
4	0	
4	9	
5	0	
6	6	
6	9	ditto, at farm of <i>North Lynn</i>
7	0	
7	0	
7	3	
7	6	
8	0	
9	0	
10	0	
6	6	
7	0	
7	6	
8	6	ditto, to lower end of birth for vessels
8	6	
9	6	ditto, at sluice, West side
8	6	ditto, end of Wharfing
9	0	
9	6	
8	0	
7	0	
8	0	
10	0	ditto, upper end of pool

## SECOND DAY'S WORK.

Feet

Feet Inches

10 0

9 6

9 3

9 3

9 0

9 0

8 3

7 6

7 6

7 0

wind East and by North, squally

6 9

6 6

6 6

6 0

5 10

5 10

5 10

6 0

6 0

opposite, at a stile, on West shore

6 0

6 0

6 0

6 0

6 9

7 0

6 3

6 0

5 3

5 3

5 3

5 0

5 0

5 0

5 0

5 3

5 10

6 3

6 6

6 9

ditto, at *Lyme Kiln*

6 6

6 3

6 3

6 0

5 0

5 6

5 3

Feet Inches

5 2 opposite, at *Ferry Staith*

5 0

4 10

4 8

4 8

4 6

4 4

4 2

4 0

4 0

ditto, to the South house of the  
Ferry buildings

4 0

4 0

4 0

4 0

4 0

4 3

4 6

4 6

4 9

5 0

5 3

5 3

5 9

6 0

6 6

7 0

9 0

9 6

11 0

0 0

0 0

0 0

0 0

0 0

0 0

11 0

10 0

9 6

11 3

11 0

0 0

0 0

0 0

8 0

10 3

9 0

no soundings with a 12 foot rod

no soundings with a 12 foot rod

Feet

Feet inches

9 6

10 0

9 9

9 6

9 0

8 8

8 6

8 3

8 0

8 0

8 0

8 6

fifty feet from West shore

9 0

9 0

10 0

10 0

10 0

9 6

9 0

9 0

9 0

8 6

8 0

7 9

7 0

6 6

opposite Dock, West Lynn

6 0

4 0

2 9

2 9

2 6

2 6

2 4

2 1

2 2

2 2

2 4

2 6

2 6

2 9

3 0

opposite West Lynn

3 4

3 6

3 9

3 9

the lower part of crossing over to  
the East, or the Harbour

3 10

3 10

Feet inches

3 8

3 8

3 8

3 8

3 8

3 4

3 2

3 0

3 0

3 0

2 10

2 9

2 8

2 6

2 4

2 0

2 0

1 9

1 6

at middle of crossing over

1 8

1 8

1 0

1 9

2 0

2 0

2 9

3 3

3 0

ditto, at the upper end of crossing  
over, from West to East side

4 0

5 0

4 9

6 3

6 6

6 0

5 0

3 9

3 6

3 6

4 0

5 0

6 0

ditto, at Dawson's Sail Cloth Ware-  
house

5 0

5 0

4 6

3 6

3 6

Feet



Feet Inches

3 8  
 3 9  
 4 0  
 4 9  
 5 6  
 6 0  
 6 9  
 7 0  
 8 6  
 9 0 *St. Margaret's Muck-hill*

10 0  
 7 6  
 4 0  
 3 6  
 3 9  
 4 0  
 4 9  
 5 6  
 7 6  
 8 6  
 9 0  
 9 3  
 9 0  
 8 6  
 8 0  
 7 6

6 6 *opposite to South end of Mr. Bag's Warehouse*

4 6  
 5 0  
 5 3  
 5 6  
 6 0  
 6 6  
 7 0  
 8 0  
 7 9  
 7 3  
 7 3  
 7 6  
 7 0  
 6 0  
 4 0  
 3 6  
 3 6  
 3 6  
 3 6

Feet Inches

3 9 *opposite to heads of upper vessels in the Haven*

4 0  
 4 0  
 4 3  
 4 6  
 4 9 *ditto, to fleet called Ball's, or Lady's fleet*

4 6  
 5 0  
 5 0  
 5 6  
 6 0 *ditto, at stern of fourth tier of vessels laying at the Ball Wharf*

6 0  
 7 0  
 7 6  
 8 0  
 9 0  
 9 6  
 9 9 } *fourth tier*

9 9  
 8 0  
 7 0  
 6 0  
 6 0  
 5 6  
 5 6 *opposite to fourth tier head*

5 9  
 6 0  
 6 0  
 6 6 } *space*

7 0  
 8 0  
 9 0 *ditto, at stern of the third tier*

8 0  
 7 6  
 6 0  
 6 6 } *third tier*

5 9  
 5 3  
 5 3  
 5 3 *ditto, at head of third tier*

5 6  
 6 0  
 6 3  
 6 6 } *space*

Feet

Feet Inches

6	0	
5	0	
5	9	
6	3	opposite to second tier of vessels
6	6	
7	0	
8	0	
9	0	
11	0	
10	0	
8	0	
5	6	
4	10	ditto, at heads of vessels of upper tier
5	0	
5	0	
4	0	
5	6	
5	9	ditto, at marks of Sandringham-Eau entrance

## THIRD DAY'S WORK.

## MR. GOLBOURN'S SOUNDINGS.

Fourteen inches of flood when this was taken.

3	0	opposite to Common Staith
20	0	
8	0	
7	0	
3	0	
2	6	These are a repetition of some part of the last.
1	6	
1	4	ditto, to Old Lynn
1	4	ditto, at crossing the Harbour
7	0	ditto, the Ball Wharf
6	0	

## ABOVE the HARBOUR.

4	0	
3	6	
10	6	
3	6	ditto, to Watt's mark on Jetty
2	6	
16	0	ditto, to Old Jetty

Feet Inches

9	6	
12	0	opposite to next point
6	0	ditto, to fence on bank
9	6	ditto, to turn of the bank
7	0	ditto ditto
10	0	ditto, to Old Cross Bank
4	6	
6	0	ditto, to Old Cross, ditto
3	6	
2	6	
2	3	
2	0	in crossing over towards Marsbland
3	6	opposite to Clenchwarton Goale
6	0	
4	0	
8	0	
8	6	ditto, at Bend
10	0	
8	0	
12	0	
2	3	ditto, to Granaries
2	3	ditto, at a point
4	0	
3	0	ditto, at Marsbland Turn
1	6	ditto, in crossing over
2	9	ditto, at a point
3	0	ditto, ditto
3	6	
4	9	
6	0	
3	0	
4	3	
6	0	
3	6	
2	6	ditto, above the turn
3	9	
9	0	
6	0	
3	6	
17	0	
4	0	ditto, at a turn
3	9	
3	6	
3	0	ditto, to Mr. Dixon's house
2	6	
3	0	

Feet

Feet Inches

3 6 in crossing over

3 0

4 0

5 0 at a point

5 9

6 6 opposite to *Lower Goale*

5 0 } in crossing over

5 0 }

1 6 opposite to *Lane's house*

5 6 ditto, to a jetty

6 6 ditto, to a jetty

5 6

7 6

9 0 ditto, to *Cullen's Style*

[Fourteen inches flood ends here, and must be allowed out of these last.]

7 0 *Cullen's Style*

3 0

6 0

5 0

4 6

8 0

7 0

6 3 ditto

6 9

6 3

11 3

18 0 ditto, at *New Knight's Goale*.

8 0

8 2

15 0 ditto, at *Old Knight's Goale*

11 9

11 0

6 0

5 0

4 0

2 9

3 9

3 3

3 3

5 6

18 6 under *St. German's Bridge* decreasing to6 0 opposite *Church*

8 0

11 6

Feet Inches

11 0

10 0

8 0

7 0 breadth of river here 222 feet

9 0

8 0

7 0

6 6

6 0

5 9

5 9

4 6

4 0

3 9

3 6

3 0

4 6

4 3

4 3

4 8

5 0

5 0

4 6

4 0 bend of river below *St. Peter's Church*, and at crossing of the stream

4 6

17 0 in bend of ditto, 165 feet in width

16 0

13 0

9 0

7 0

6 0 against a *Goale* filled up

7 6

4 6 opposite *St. Peter's Church*

6 0

13 0

13 0 181½ feet in width

14 0 house

11 0

11 0 bend of river above the point

8 0

8 0

15 6 at *Polver's Goale* half filled up.—

18 0

12 0

11 0

Feet



Feet	Inches	
10	0	1st house
8	6	
12	0	
10	0	next house
7	0	
8	0	
6	6	
4	0	
4	0	
4	0	
4	0	
6	0	
5	6	
5	6	
5	9	
6	0	
6	6	
7	0	
4	0	
5	0	
5	6	
6	0	Magdalen
4	6	
4	9	
5	0	1st house i
4	6	
5	0	
6	6	
7	0	
14	0	Magdalen
11	6	
8	0	
7	0	
7	0	
6	6	
7	6	
7	6	
10	0	
6	6	upper hou
6	6	
6	6	
11	6	
15	0	
14	0	
7	6	
5	9	

Feet	Inches	
6	0	
5	0	
4	6	house
10	0	
11	0	
13	0	small house West side
11	0	
11	6	
10	6	round the curve
12	0	small house
9	0	
9	6	
8	0	
4	6	
8	0	tunnel East side
15	0	
10	0	
14	0	horse shoe
4	0	
2	6	Channel crosses
3	0	
10	0	curve reversed
14	0	
9	6	White's farm-house
4	0	
9	0	
8	0	farm-house
7	0	fluice
5	9	fluice
5	0	
5	0	
8	9	under West shore
8	6	
9	6	
5	0	
4	6	small house
16	0	
16	6	great house, &c.
14	0	
9	6	
16	6	house above ditto
9	6	
8	0	
7	6	1st house in Stow
5	6	St. John's Eau outfall
5	3	

Feet

Feet Inches

7 0  
 6 6  
 6 0  
 5 6  
 13 0 under *Stow bridge*  
 14 0  
 10 6  
 7 0 small house  
 6 0  
 5 0  
 5 6  
 6 6 *Stowfall sluice*  
 6 0  
 7 0  
 6 6  
 6 0  
 6 0 East house  
 9 0 sluice  
 9 0 *Tong's sluice*  
 10 0 on sluice apron 5 6  
 11 0  
 8 0  
 4 6  
 9 0  
 5 0  
 4 6  
 7 6  
 5 0  
 8 6 gate on East side  
 6 0  
 4 9  
 5 0  
 10 6  
 11 0  
 6 9 style on bank  
 10 0  
 10 0  
 6 0  
 10 0  
 6 0  
 7 0  
 8 0  
 6 0  
 8 0  
 8 6  
 7 0 *Downham-Road house, or Downham-bythe*

Feet Inches

5 9  
 5 6  
 6 0  
 6 6  
 6 6  
 6 0 near the bridge  
 11 0 under *Downham bridge*  
 6 6  
 6 0  
 6 9  
 9 0  
 11 0  
 11 0  
 11 0  
 9 0  
 7 6  
 16 9  
 14 0  
 12 0  
 10 0  
 16 0  
 14 0  
 11 6  
 10 0  
 11 0 1st house above bridge  
 9 6  
 10 6  
 12 0 *Salter's Loade sluice*  
 12 0 on the *Mitred Cill* 6 0  
 10 0 on apron 6 8  
 7 0 *Bedford sluice*  
 6 6  
 6 3  
 5 6  
 5 6  
 5 0  
 6 9  
 7 6  
 6 0  
 11 0  
 9 9 on apron of *Denver sluice*  
 8 4 on *Mitred Cill*  
 7 7 on pen sluice mark  
 7 0  
 7 0 ditto, at mouth of *Stoke or Wissey*  
 River. Good water up to mouth  
 of *Brandon River*

H

Feet

Feet Inches

7 0 opposite *Littleport*  
 — ditto, Soundings very regular  
 — ditto, at *Sam's*, or *Hunt's Cut*  
 8 0  
 8 0  
 9 0  
 9 0  
 — ditto, at mouth of the *Little Ouzé*  
 River

5 6

5 7

5 6

7 0 ditto. No water mill at work  
 The water 18 inches higher now,  
 owing to *Denver* Sluice being  
 kept shut by spring tides  
 ditto, at *Littleport Bridge*

3 0 Water in lower end of *Sandal's Cut*

5 0

5 0

4 6

4 6

— ditto, at *Minster Reach*

— ditto, at *Prick Willow Bridge*, or  
 mouth of *Mildenball River*

4 0 ditto, Shoal water to *Ely*

4 0

4 0 ditto, at *Ely Town*

5 0 ditto, at *Ely Bridge*

*A swell of water, from above, to day*

3 8

3 6 *A swell of 6 inches in the River by*  
*a flash from Clayhithe*  
 opposite *Soham Lode*, and *Sea Lode*  
 ditto, at lower end of the *Old Ouzé*

3 6 ditto, at mouth of the *Grant*

3 0

3 0 and two feet mud

2 6

2 9 } a shoal at the *Dimock's Coates*  
 2 8 } houses

2 9

2 9

2 4

at the *Staunch*, tried 3 years ago  
 at *Reach Lode*

Feet Inches

2 6

2 2

2 6

2 10

2 6

2 1

2 4

2 2

2 0

hard bottom, gentle stream opposite  
*Swafton Lode*

*the flash-water sunk 10 or 12 inches*

1 10

2 0

2 1

2 0

hard sandy bottom at *Batsham*  
*Lode*

1 6

1 5

1 4

0 8

a gang of 9 boats stopped aground  
 My boat stopped, lightened her at  
 a ford, half a mile below *Clay-*  
*hithe*

10 boats aground, drawing 2 feet  
 water, at *Toll-House*

2 0

2 6

3 0

3 3

3 3

3 3

3 0

2 9

2 6

0 8

at cill of gates, *Clayhithe* Sluice,  
 waited and

0 11

at 3 hours more

0 4

on Cill of upper Gates

1 6

1 9

2 0

1 8

1 6

1 8

marks on banks 2 feet higher; but  
 all was let off for a flash

1 6

1 9

Feet



Feet Inches

1 6

1 2

1 3

1 6

1 9

2 0

At *Backbite* Sluice2 6½ on *Lower Gate* Cill

1 2

1 3

1 4

1 6

2 0 marks on banks, 18 inches higher

1 0 at jetties the guard piles

0 8 boat stopt

At *Chefferton* Sluice

1 3 on lower Cill

1 4 pen at Gates,

18 inches had been let off

2 8 ½ at *Cambridge* Lock Cill

2 5 pen, at ditto

Good

water

up to

*Jefus**Green*, where it was 4. 10. ½ below *Kemp-*  
*shot* of the wharf

Compare the following Soundings, taken  
in the *New Bedford River* three quar-  
ters of a mile above *Denver*, down to  
*Denver*, and from thence down the *Ouze*:

5 6

5 6

5 4

5 3

6 0

5 6

5 9

6 0

6 0

5 6

5 9

5 6

5 0

*Blindman's* House

5 4

Feet Inches

5 6 *Longman's* Rails

5 3 100 yards below ditto

5 4

5 6

5 4

5 6

5 6

5 0 a furlong above Sluice

4 9

4 6

4 3 100 yards above ditto

4 3

4 6

4 9

5 0 small Sluice above *Denver* Sluice

4 9

5 0

4 9

5 0

6 0 upper end of Wharf

6 6

7 0

8 0

8 6

8 6 fence

8 6

6 6 *Denver* Sluice3 3 *Brighton's* house.

3 4

3 5

3 6

4 2 high trees

4 3

4 3

4 0 *Bedford* sluice

3 9

4 0

4 3

4 6

5 0

5 9

6 0 *Salter's Lode* sluice

7 0

8 0

8 0

9 0

H 2

Feet

Feet Inches

11 0  
11 6 first house below sluice

10 0

8 0

6 0

6 0 second house

8 0

10 0

11 0

11 6

11 6

0 0 no bottom with 12 feet staff

N. B. When these soundings were taken, the water on the *Pen* sluice, at *Denver* sluice, was to the 6 f. 8 in. mark

In the *Ouze* the same day, the water as above

9 6 *Stoke* River

10 0

10 6

11 0 first house below ditto

11 6 first pile

12 0

11 6

11 0

11 6

11 0

11 0

10 6

10 0 second pile

10 6

10 6

11 0

11 0 third pile

11 6

11 6

11 0

11 0

11 0

11 0

10 6

10 6

10 6

10 6

Feet Inches

10 6

10 0

9 6

9 0

9 4 water engine

9 0

9 0

9 0

9 6

10 0

9 6

10 0 first pile below mill

10 0

10 0

10 6

10 6

11 0

11 0

11 6

11 6

10 6

10 6

10 0

10 0

10 6 second pile and jetty

11 0

11 0

11 0

11 0

11 6

11 6 and 11 to jetty

11 6 and

11 0 to 4th jetty

10 6 to 5th ditto

10 6

10 6

10 6

10 0 to the 6th ditto

10 0

10 0

10 0

9 6 to the 7th ditto

9 6 to the 8th ditto

9 0 to the 9th ditto

9 6

9 6

Feet

Feet Inches

9 3  
 9 3  
 9 0  
 9 0  
 8 9  
 8 9  
 8 3  
 8 0  
 7 9  
 7 6  
 7 9  
 7 9  
 7 6 *Saffery's* fluice  
 7 6

Feet Inches

7 6  
 7 0 house  
 7 0  
 6 9  
 6 0  
 6 0  
 5 9  
 6 0  
 6 3  
 6 3 Sable  
 6 0  
 6 2  
 8 6 on threthold of fluice, and  
 6 8 on *Pen* fluice